

RINGKASAN

RADEN NIKO ARIANTO. Pola Sebaran Fitoplankton di Perairan Sebong Pereh Kabupaten Bintan. Dibimbing oleh Winny Retna Melani dan Tri Apriadi.

Provinsi Kepulauan Riau, terutama Desa Sebong Pereh di Kecamatan Teluk Sebong, memiliki potensi besar di sektor industri dan pariwisata serta merupakan aktivitas penangkapan ikan. Fitoplankton sebagai produsen primer dalam ekosistem laut memiliki peran penting dalam rantai makanan dan siklus unsur. Penelitian ini bertujuan untuk mengkaji pola sebaran dan kelimpahan fitoplankton di perairan Desa Sebong Pereh, serta hubungannya dengan konsentrasi nitrat dan fosfat. Penelitian dilakukan dari September 2023 hingga Februari 2024, dengan pengambilan sampel di 15 titik menggunakan metode survei. Analisis parameter fisika dan kimia perairan dilakukan *in situ* dan pengamatan di laboratorium. Sampling fitoplankton dilakukan dengan metode dinamis secara vertikal sedangkan pencacahan identifikasi fitoplankton menggunakan metode sensus. Hasil penelitian menunjukkan kelimpahan fitoplankton sebesar 422.047 sel/m³, tergolong kategori rendah. Empat divisi fitoplankton yang ditemukan adalah Bacillariophyta, Dinophyta, Chlorophyta, dan Cyanophyta. Bacillariophyta sebagai divisi yang memiliki jumlah jenis serta kelimpahan tertinggi. Pola sebaran fitoplankton dipengaruhi oleh kondisi hidrodinamika dan ketersediaan nutrisi. Kelimpahan fitoplankton yang tinggi dijumpai pada lokasi dengan konsentrasi nutrisi yang tinggi juga. Analisis korelasi menunjukkan hubungan lemah positif antara kelimpahan fitoplankton dan nitrat $r = 0,155$, sementara lemah negatif hubungan signifikan dengan fosfat $r = -0,030$. Nitrat terbukti lebih berpengaruh terhadap kelimpahan fitoplankton dibandingkan fosfat.

Kata kunci: Desa Sebong Pereh, Fitoplankton, Fosfat, Nitrat, Pola Sebaran

SUMMARY

RADEN NIKO ARIANTO. Phytoplankton Distribution Patterns in the Waters of Sebong Perih Bintan Regency. Supervised by Winny Retna Melani and Tri Apriadi.

The Riau Islands Province, particularly Sebong Perih Village in Teluk Sebong District, holds significant potential in the industrial and tourism sectors and serves as fishing ground. Phytoplankton, as primary producers in the marine ecosystem, play a crucial role in food chains and nutrient cycles. This study aims to examine the distribution patterns and abundance of phytoplankton in the waters of Sebong Perih Village and their relationship with nitrate and phosphate concentrations. The research was conducted from September 2023 to February 2024, with sampling at 15 designated points using survey methods. Physical and chemical water parameters were analyzed in situ, and observations were conducted in the laboratory. Phytoplankton sampling was performed using a dynamic vertical method, and phytoplankton identification was conducted using a census method. The results showed a phytoplankton abundance of 422.047 cells/m³, categorized as low abundance. Four phytoplankton divisions were found: Bacillariophyta, Dinophyta, Chlorophyta, and Cyanophyta, with Bacillariophyta being the division with the highest species number and abundance. The distribution pattern of phytoplankton was influenced by hydrodynamic conditions and nutrient availability. The high phytoplankton abundance was found in a area with high nutrient concentration. Correlation analysis showed a weak positive relationship between phytoplankton abundance and nitrate $r = 0.155$, while a weak negative significant relationship was observed with phosphate $r = -0.030$. Nitrate was found to have a greater influence on phytoplankton abundance compared to phosphate.

Keywords: Distribution Patterns, Nitrate, Phosphate, Phytoplankton, Sebong Perih village